

**REMARKS**

Claims 7-18 are pending in this application, of which claims 10-12 and 15 have been amended and claims 10-18 are newly-added.

The Examiner has objected to claim 15 for an informality which has been corrected in the aforementioned amendments.

Claims 7-9 stand rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent 4,568,846 to Kapadia (hereinafter "**Kapadia**") (previously applied).

Applicants respectfully traverse this rejection.

**Kapadia** discloses a permanent magnet rotor having a plurality of high performance permanent magnets supported in each set of a plurality of stacked rotor laminations of magnetic material, with holding laminations at each end of each end of each set of the stacked rotor laminations enclosing the magnets. Bolts extend through aligned holes in all of the laminations to enable nuts to be attached, to form a stacked and bolted assembly. The magnets are preferably radially disposed and equiangularly spaced from each other. A groove is disposed in each of the laminations between a non-magnetic shaft and the inner end of each of the magnets to reduce flux leakage.

Fig. 2 of **Kapadia** shows magnetic flux 54 leaking into shaft 16 from permanent magnets 41. This is in contrast to the present invention in which the magnetic field provided by the permanent magnet does not pass through the rotating shaft, as recited in claims 7-9 of the instant application.

Thus, the 35 USC §102(b) rejection should be withdrawn.

Claims 10-12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,555,940 B2 to Naito et al. (hereinafter "Naito et al.") in view of U.S. Patent 4,358,696 to Liu et al. (hereinafter "Liu et al.").

Applicants respectfully traverse this rejection.

Naito et al. discloses a permanent magnet rotor having a series of slots 12A, 12B and 12C curving away from the center shaft. Permanent magnets are embedded in the slots 12A, 12B and 12C. The slots are all arcuate and curve away from the center rotating shaft.

This is in contrast to the present invention, in which the magnets either have a linear shape, as shown, for example, in Figs. 40-41 and 43, or an arcuate shape curving around the center shaft, as shown in Fig. 42.

Accordingly, claims 10-12 have been amended to recite that the secondary permanent magnets each have a linear shape. Newly-added claims 16-18 have been added with recite secondary permanent magnets having an arcuate shape curving around the center rotating shaft.

Liu et al. discloses a permanent magnet rotor configuration which produces four magnetic poles utilizing two sets of symmetrically-disposed permanent magnets. The slots carrying the magnets exhibit a truncated V-shaped configuration, extending from points on the periphery of the rotor to meet the ends of a straight, central portion which lies parallel to a tangent to the rotor shaft. A short magnetic bridge interrupts the center of each slot, the slots being disposed generally symmetrically upon opposite sides of the rotor shaft.

Liu et al., like Naito et al., discussed above, fails to teach, mention or suggest the linear or arcuate shape of the secondary permanent magnets.

Thus, the 35 USC §103(a) rejection should be withdrawn.

Claims 13-15 stand rejected under 35 U.S.C. §103(a) as unpatentable over Kapadia in view of U.S. Patent 5,990,593 to Narita et al. (hereinafter "Narita et al.").

Applicants respectfully traverse this rejection.

Narita et al. has been cited for teaching at least one slit 13a having a shape of an arc of a circle, but cannot be combined with Kapadia to teach the present invention because Kapadia discloses some magnetic flux leaking into the center rotating shaft.

Thus, the 35 USC §103(a) rejection should be withdrawn.

In view of the aforementioned amendments and accompanying remarks, claims 7-18, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

U.S. Patent Application Serial No. **10/692,865**  
Response to Office Action dated January 27, 2005

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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Enclosures: Amendment Transmittal

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